



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

JK

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,338	10/09/2001	Wayne Milton Schott	US 010480	6212
24737	7590	01/14/2004	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			MCCLLOUD, RENATA D	
		ART UNIT	PAPER NUMBER	
		2837		

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/973,338	SCHOTT, WAYNE MILTON
Examiner	Art Unit	
Renata McCloud	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 24 October 2003.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 1-20 is/are rejected.
7) Claim(s) _____ is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) The translation of the foreign language provisional application has been received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). ____ .
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ . 6) Other: ____ .

DETAILED ACTION

1. In view of the appeal brief filed on 24 October 2003, paper number 12,
PROSECUTION IS HEREBY REOPENED. A new rejection has been set forth below.

To avoid abandonment of the application, appellant must exercise one of the
following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply
under 37 CFR 1.113 (if this Office action is final); or,
(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied
by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130,
1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Response to Amendment

2. The amendment filed 07 July 2003, paper number 9, has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-10, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over H.F. Olson (U.S. Patent 2,688,373) in view of Froeschle (U.S. 5,025,885).

Claim 1: H.F. Olson teaches an acoustical enclosure comprising a speaker box (Fig. 4: 15) comprising walls that enclose an acoustic chamber (Fig. 4:25,27), a partition (Fig. 4: 21) coupled to the interior surfaces of the speaker box (Fig. 4: 15) that divides the chamber into first and second chambers (e.g. Fig. 4: 25 and 27), a first speaker (Fig. 4: 33) mounted within the partition (Fig. 4: 21) in which the front of the speaker has access to the first chamber (Fig. 4: 25) and the back portion of the speaker has access to the second chamber (Fig. 4: 27), and a second speaker (Fig. 4: 29) mounted in one of the walls enclosing the chamber (Fig. 4: 15) wherein a front portion of the second speaker (Fig. 4: 29) has access to the air outside of the speaker box (Fig. 4: 15), and the back portion of the second speaker (Fig. 4: 29) has access to the second chamber (e.g. Fig. 4: 27). H.F. Olson does not teach an external port to the second chamber. Froeschle teaches an acoustical enclosure comprising a speaker box (Fig. 1A: 10) comprising walls that enclose an acoustic chamber, a partition (Fig. 1A: 18) coupled to the interior surfaces of the speaker box (Fig. 1A: 10) that divides the chamber into first and second chambers (Fig. 1:12 and 14), a first speaker (Fig. 1A: 20) mounted within the partition (Fig. 1A: 18) in which the front of the speaker (Fig. 1A: 20) has access to the first chamber (Fig. 1A: 12) and the back portion of the speaker (Fig. 1A: 20) has access to the second chamber (Fig. 1A: 14), at least one wall (Fig. 1A: 16) enclosing

the acoustic chamber (Fig. 1A: 10) comprising portions forming an external vent (Fig. 1A: 22) to the second chamber (Fig. 1A: 14).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the enclosure taught by H.F. Olson to include an external vent to the second chamber as taught by Froeschle. The advantage of this would be an acoustic enclosure with an acoustic air mass that provides extra reactance which can be used to tune the loudspeaker response, so as to alter the frequency response to the low end of the spectrum; and decreased cone excursion which results in an increase in low frequency response and decreased distortion.

Claims 2, 4, 6, and 8: H.F. Olson and Froeschle teach the limitations of claim 1. Referring to claim 2, Froeschle teaches the partition comprises portions that form an uncovered internal vent (e.g. Fig. 1A: 24) between the first chamber (Fig. 1A: 12) and the second chamber (Fig. 1A: 14).

Claim 3: H.F. Olson and Froeschle teach the limitations of claim 1. Referring to claim 3, H.F. Olson teaches the first speaker and the second speaker are connected in phase electrically (e.g. Fig. 5).

Claim 5: H.F. Olson and Froeschle teach the limitations of claim 1. Referring to claim 5, H.F. Olson teaches a volume of the first chamber is increased due to the second speaker within one of the walls enclosing the chamber (e.g. Column 8:26-40).

Claim 7: H.F. Olson and Froeschle teach the limitations of claim 1. Referring to claim 7, Froeschle teaches a low frequency response including 30 Hz (Fig. 1B).

Claim 9: H.F. Olson teaches an acoustical enclosure comprising a speaker box (Fig. 4: 15) comprising walls that enclose an acoustic chamber (Fig. 4: 25,27), a partition (Fig. 4: 21) coupled to the interior surfaces of the speaker box (Fig. 4: 15) that divides the chamber into first and second chambers (e.g. Fig. 4: 25 and 27), a first speaker (Fig. 4: 33) mounted within the partition (Fig. 4: 21) in which the front of the speaker has access to the first chamber (Fig. 4: 25) and the back portion of the speaker has access to the second chamber (Fig. 4: 27), and a second speaker (Fig. 4: 29) mounted in one of the walls enclosing the chamber (Fig. 4: 15) wherein a front portion of the second speaker (Fig. 4: 29) has access to the air outside of the speaker box (Fig. 4: 15), and the back portion of the second speaker (Fig. 4: 29) has access to the second chamber (e.g. Fig. 4: 27); wherein the second speaker enhances the acoustical performance of the acoustic chamber (Col. 8:26-40). H.F. Olson does not teach an external port to the second chamber and extending the frequency range to approximately 30 Hz. Froeschle teaches an acoustical enclosure comprising a speaker box (Fig. 1A: 10) comprising walls that enclose an acoustic chamber, a partition (Fig. 1A: 18) coupled to the interior surfaces of the speaker box (Fig. 1A: 10) that divides the chamber into first and second chambers (Fig. 1:12 and 14), a first speaker (Fig. 1A: 20) mounted within the partition (Fig. 1A: 18) in which the front of the speaker (Fig. 1A: 20) has access to the first chamber (Fig. 1A: 12) and the back portion of the speaker (Fig. 1A: 20) has access to the second chamber (Fig. 1A: 14), at least one wall (Fig. 1A: 16) enclosing the acoustic chamber (Fig. 1A: 10) comprising portions forming an external

vent (Fig. 1A: 22) to the second chamber (Fig. 1A: 14), wherein the frequency response of the enclosure range includes 30 Hz (Fig. 1B).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the enclosure taught by H.F. Olson to include an external vent to the second chamber and a frequency response of 30 Hz as taught by Froeschle. The advantage of this would be an acoustic enclosure with an acoustic air mass that provides extra reactance which can be used to tune the loudspeaker response, so as to alter the frequency response to the low end of the spectrum; and decreased cone excursion which results in an increase in low frequency response and decreased distortion.

Claim 10: H.F. Olson and Froeschle teach the limitations of claim 9. Referring to claim 18, Froeschle teaches placing an uncovered internal vent in the partitioning wall between the first chamber and the second chamber (Fig. 1A: 24).

Claim 19: H.F. Olson and Froeschle teach the limitations of claim 9. Referring to claim 19, H.F. Olson teaches electrically connecting the first speaker and said second speaker in phase (e.g. Fig. 5; Col. 5: 16-22)

Claim 20: H.F. Olson and Froeschle teach the limitations of claim 19. Referring to claim 18, Froeschle teaches placing an internal vent in the partitioning wall between the first chamber and the second chamber (Fig. 1A: 24).

5. Claims 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over H.F. Olson (U.S. Patent 2,688,373) in view of Froeschle (U.S. 5,025,885).

Claim 11: Froeschle teaches a method comprising extending a range of low frequency response of a dual chamber enclosure (Fig. 1A: 10) to approximately 30 Hz (Fig. 1B) by placing a first speaker (Fig. 1A: 20) within a partition (Fig. 1A: 18) that divides the chamber into first and second chambers (Fig. 1A: 12 and 14), in which the front of the speaker (Fig. 1A: 20) has access to the first chamber (Fig. 1A: 12) and the back portion of the speaker (Fig. 1A: 20) has access to the second chamber (Fig. 1A: 14), wherein at least one wall (Fig. 1A: 16) enclosing the acoustic chamber (Fig. 1A: 10) comprising portions forming an external vent (Fig. 1A: 22) to the second chamber (Fig. 1A: 14). Froeschle does not teach placing a second speaker within a wall of the first chamber, wherein a front portion of the second speaker has access to the outside air and the back portion of the speaker has access the first chamber. H.F. Olson teaches an acoustical enclosure comprising a speaker box (Fig. 4: 15) comprising walls that enclose an acoustic chamber (Fig. 4: 25,27), a partition (Fig. 4: 21) coupled to the interior surfaces of the speaker box (Fig. 4: 15) that divides the chamber into first and second chambers (e.g. Fig. 4: 25 and 27), a first speaker (Fig. 4: 33) mounted within the partition (Fig. 4: 21) in which the front of the speaker has access to the first chamber (Fig. 4: 25) and the back portion of the speaker has access to the second chamber (Fig. 4: 27), and a second speaker (Fig. 4: 29) mounted in one of the walls enclosing the chamber (Fig. 4: 15) wherein a front portion of the second speaker (Fig. 4: 29) has access to the air outside of the speaker box (Fig. 4: 15), and the back portion of the second speaker (Fig. 4: 29) has access to the second chamber (e.g. Fig. 4: 27).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the enclosure taught by Froeschle to include a second speaker as taught by H.F. Olson. The advantage of this would be an enhancement in sound reproduction quality due the first speaker assisting the driving of the second speaker; and option to use speakers having different frequency responses.

Claim 12: Froeschle and H.F. Olson teach the limitations of claim 11. Referring to claim 12, H.F. Olson teaches electrically connecting the first speaker and said second speaker in phase (e.g. Fig. 5; Col. 5: 16-22).

Claim 13: Froeschle and H.F. Olson teach the limitations of claim 11. Referring to claim 13, Froeschle teaches placing an uncovered internal vent in said partitioning wall between the first chamber and the second chamber (Fig. 1A: 24).

Claim 14: Froeschle and H.F. Olson teach the limitations of claim 11. Referring to claim 14, H.F. Olson teaches increasing a volume of the first chamber due to the presence of a second speaker within said wall of the first chamber of the acoustical enclosure (e.g. Col. 8:26-40).

Claim 15: Froeschle and H.F. Olson teach the limitations of claim 14. Referring to claim 15, Froeschle teaches placing an uncovered internal vent in the partition between the first chamber and the second chamber (Fig. 1A: 24).

Claim 16: Froeschle and H.F. Olson teach the limitations of claim 12. Referring to claim 16, Froeschle teaches placing an uncovered internal vent in the partitioning wall between the first chamber and the second chamber (Fig. 1A: 24).

Claim 17: Froeschle and H.F. Olson teach the limitations of claim 12. Referring to claim 17, H.F. Olson teaches increasing a volume of the first chamber due to the presence of a second speaker within the wall of the first chamber of the acoustical enclosure (e.g. Col. 8:26-40).

Claim 18: Froeschle and H.F. Olson teach the limitations of claim 17. Referring to claim 18, Froeschle teaches placing an uncovered internal vent in the partitioning wall between the first chamber and the second chamber (Fig. 1A: 24).

Response to Arguments

6. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nevill (U.S. 6,019,188), A. D'alon (U.S. 1,969, 704), and MTX Audio website (<http://www mtx.com/caraudio/education/enclosureDesign.cfm>).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (703) 308-1763 and is (571) 272-2069 after February 2, 2004. The examiner can normally be reached on Mon.- Fri. from 8 am - 5pm.

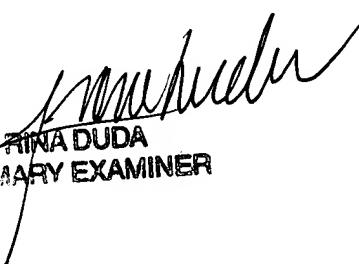
Art Unit: 2837

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on (703) 308-3370. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Renata McCloud
Examiner
Art Unit 2837

RDM


RINA DUDA
PRIMARY EXAMINER